Psychopharmacology

CONTENTS OF VOLUME 130 · 1997

	For North and South America	For the rest of the world
Clinical psychopharmacology		
Field editors	D.E. Casey, Portland W. Potter, Indianapolis	J. Gerlach, Roskilde P.J. Cowen, Oxford
Advisory editors	B. Cohen, Belmont R. Poland, Torrance	P. Bech, Hillerød W.F. Gattaz, São Paulo O. Lingjaerde, Oslo E.S. Paykel, Cambridge
Human cognitive psychopharmacology		
Field editors	H. de Wit, Chicago	D.M. Warburton, Reading
Advisory editors	E. Gamzu, Cambridge T. Roehrs, Detroit B.J.Spring, North Chicago H. Weingartner, Washington DC	I. Hindmarch, Guildford B.J. Sahakian, Cambridge K. Siegfried, Frankfurt
Alcohol and substance abuse in humans		
Field editors	H. de Wit, Chicago	D.M. Warburton, Reading
Advisory editors	G. Bigelow, Baltimore S.S. O'Malley, New Haven K.A. Perkins, Pittsburgh	I. Hindmarch, Guildford B.J. Sahakian, Cambridge K. Siegfried, Frankfurt
Biochemical neuropharmacology, drug metabolism and pharmacokinetics		
Field editors	D.R. Sibley, Bethesda	J. Leysen, Beerse
Advisory editors	I. Creese, Newark I. Kopin, Bethesda J.M. Perel, Pittsburgh	J. Heykants, Beerse J. Hyttel, Copenhagen-Valby C.A. Marsden, Nottingham M.B.H. Youdim, Haifa
Behavioral pharmacology in laboratory animals		
Field editors	K.A. Miczek, Medford	T.W. Robbins, Cambridge
Advisory editors	R.L. Balster, Richmond J.E. Barrett, Princeton J. Bergman, Southborough K.A. Grant, Winston-Salem S.G. Holtzman, Atlanta H. Kalant, Toronto	A.R. Cools, Nijmegen B.J. Everitt, Cambridge A.J. Goudie, Liverpool W. Koek, Castres I.P. Stolerman, London M.-H. Thiebot, Paris
Preclinical psychopharmacology		
Field editors	M.A. Geyer, La Jolla	A.R. Green, Loughborough
Advisory editors	H.C. Fibiger, Vancouver, BC S.D. Glick, Albany G.F. Koob, San Diego S.B. Sparber, Minneapolis R.A. Wise, Montreal	G. Di Chiara, Cagliari D.J. Heal, Nottingham P. Jenner, London H.J. Little, Durham J.L. Waddington, Dublin 2

Psychopharmacology

This journal was founded as **Psychopharmacologia** in 1959 and was renamed **Psychopharmacology** beginning with Vol. 46 (1976).

The journal has been edited by the following Managing Editors:

Vol. 1 (1959), E. Rothlin and A. Wikler; Vol. 2 (1961), E. Rothlin and H. Isbell; Vol. 3 (1962), E. Rothlin and A. Wikler; Vol. 4 (1963)–Vol. 7 (1965), J.O. Cole and E. Rothlin; Vol. 8 (1965)–Vol. 16 (1969), J.O. Cole, E. Jacobsen, M.E. Jarvik, M. Shepherd; Vol. 17 (1970), J.O. Cole, E. Jacobsen, C. Kornetzky, M. Shepherd; Vol. 18 (1970)–Vol. 27 (1972), J.O. Cole, M. Hamilton, E. Jacobsen, C. Kornetzky; Vol. 28 (1973)–Vol. 35 (1974), J.O. Cole, M. Hamilton, E. Jacobsen, C. Kornetzky, R.W. Russell; Vol. 36 (1974)–Vol. 69 (1980), H. Barry III, J.O. Cole, M. Hamilton, E. Jacobsen, R.W. Russell; Vol. 70 (1980)–Vol. 77 (1982), H. Barry III, J.O. Cole, M. Hamilton, T.W. Robbins, R.W. Russell.

Starting with Vol. 80 (1983) the Editors have been: H. Barry III, T.W. Robbins (Coordinating Editors), J.O. Cole, J. Gerlach, M. Hamilton, J. Leysen, F. Sulser. As of Vol. 85 (1985): H. Barry III, D.E. Casey, J.O. Cole, J. Gerlach, S.D. Glick, A.R. Green, M. Hamilton, J. Leysen, T.W. Robbins, F. Sulser. As of Vol. 92 (1987): H. Barry III, D.E. Casey, J.Gerlach, S.D. Glick, A.R. Green, J. Leysen, T.W. Robbins, B.J. Spring, F. Sulser, D.M. Warburton. As of Vol. 98 (1989): H. Barry III, D.E. Casey, J. Gerlach, S.D. Glick, A.R. Green, J. Leysen, T.W. Robbins, D.R. Sibley, B.J. Spring, D.M. Warburton. As of Vol. 106 (1992): D.E. Casey, J. Gerlach, M.A. Geyer, A.R. Green, J. Leysen, K.A. Miczek, T.W. Robbins, D.R. Sibley, B.J. Spring, D.M. Warburton. As of Vol. 109 (1992): D.E. Casey, J. Gerlach, M.A. Geyer, A.R. Green, J. Leysen, K.A. Miczek, T.W. Robbins, D.R. Sibley, B.J. Spring, D.M. Warburton, H. de Wit. As of Vol. 117 (1995): D.E. Casey, J. Gerlach, M.A. Geyer, A.R. Green, J. Leysen, K.A. Miczek, T.W. Robbins, D.R. Sibley, D.M. Warburton, H. de Wit. As of Vol. 129 (1997): D.E. Casey, P.J. Cowen, J. Gerlach, M.A. Geyer, A.R. Green, J. Leysen, K.A. Miczek, W. Potter, T.W. Robbins, D.R. Sibley, D.M. Warburton, H. de Wit.

Springer

Copyright

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made.

The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA: Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0033-3158, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

The Canada Institute for Scientific and Technical Information (CISTI) provides a comprehensive, world-wide document delivery service for all Springer-Verlag journals. For more information, or to place an order for a copyright-cleared Springer-Verlag document, please contact Client Assistant, Document Delivery, Canada Institute for Scientific and Technical Information, Ottawa K1A 0S2, Canada, Tel. (613) 993-9251, FAX (613) 952-8243, e-mail: cisti.docdel@nrc.ca

ADONIS Identification System

The journal Psychopharmacology appears twice a month. It is published by Springer-Verlag Berlin, Heidelberger Platz 3, D-14197 Berlin. This journal is included in the ADONIS service, whereby copies of individual articles can be printed out from compact discs (CD-ROM) on demand. An explanatory leaflet giving further details of the scheme is available from the publishers on request.

Journals Preview Service

This journal is included in the Springer Journals Preview Service, i.e. the tables of contents and BiblioAbstracts are available via Internet before the new issue reaches the subscribers. Tables of contents are free of charge; BiblioAbstracts are available for a small annual fee. Details can be obtained by sending an e-mail message containing the line help to svjps@springer.de

Printers

Universitätsdruckerei H. Stürtz AG, Würzburg, Germany

Publisher

© Springer-Verlag Berlin Heidelberg 1997
Springer-Verlag GmbH & Co. KG Berlin, Germany

Printed in Germany

Contents of Volume 130 · 1997

Adamson LK → Shaham Y
Adrien J → Maudhuit C
Al-Ruwaitea ASA → Al-Zahrani SSA
Al-Zahrani SSA, Al-Ruwaitea ASA, Ho M-Y, Bradshaw CM, Szabadi E: Destruction of central noradrenergic neurones with DSP4 impairs the acquisition of temporal discrimination but does not affect memory for duration in a delayed conditional discrimination task 166
Andrews N, File SE, Fernandes C, Gonzalez LE, Barnes NM: Evidence that the median raphé nucleus – dorsal hippocampal pathway mediates diazepam withdrawal-induced anxiety 228
Anwyl R → Hölscher C
Arnaud C → Gauthier P
Arneric SP → Prendergast MA
Aspen JM, Winger G: Ethanol effects on self-administration of alfentanil, cocaine, and nomifensine in rhesus monkeys 222
Aulakh CS → Mazzola-Pomietto P
Azarov A → Grant KA

Babbini M → Gaiardi M
Bacchi A → Gaiardi M
Baker I → Natsuakari N
Baldemore D → Broocks A
Barnes NM → Andrews N
Bartoletti M → Gaiardi M
Bigelow GE → Dykstra LA
Bourre J-M → Coudereau J-P
Bradshaw CM → Al-Zahrani SSA
Brauer LH, Goudie AJ, Wit H de: Dopamine ligands and the stimulus effects of amphetamine: animal models versus human laboratory data 2
Briggs NC → Broocks A
Broocks A, Briggs NC, Pigott TA, Hill JL, Canter SK, Tolliver TJ, Baldemore D, Murphy DL: Behavioral, physiological and neuroendocrine responses in healthy volunteers to *m*-chlorophenylpiperazine (*m*-CPP) with and without ondansetron pretreatment 91
Buccafusco JJ → Prendergast MA
Busatto GF → Pilowsky LS

Cain DP: Prior non-spatial pretraining eliminates sensorimotor disturbances and impairments in water maze learning caused by diazepam 313
Canter SK → Broocks A
Cazala P → David V
Conti LH, Segal DS, Kuczenski R: Maintenance of amphetamine-induced stereotypy and locomotion requires ongoing dopamine receptor activation 183
Cooke MJ → Fraser CM
Corrigall WA → Rose JE
Corrigall WA → Shaham Y
Costa DC → Pilowsky LS
Coudereau J-P, Debray M, Monier C, Bourre J-M, Frances H: Isolation impairs place preference conditioning to morphine but not aversive learning in mice 117
Cunningham KA → Walsh SL

Dangoumau L → Maudhuit C
David V, Durkin TP, Cazala P: Self-administration of the $GABA_A$ antagonist bicuculline into the ventral tegmental area in mice: dependence on D_2 dopaminergic mechanisms 85
Davies N → Pilowsky LS
De Vry J → Maurel S
Debray M → Coudereau J-P
Decker MW → Prendergast MA
Depoortere R → Sanger DJ
Donahey JCK → Grill HJ
Durkin TP → David V
Dykstra LA, Preston KL, Bigelow GE: Discriminative stimulus and subjective effects of opioids with *mu* and *kappa* activity: data from laboratory animals and human subjects 14

Ell PJ → Pilowsky LS
Ellinwood EHJr → King GR

Faulhaber J, Steiger A, Lancel M: The $GABA_A$ agonist THIP produces slow wave sleep and reduces spindling activity in NREM sleep in humans 285
Fernandes C → Andrews N
File SE → Andrews N
Fisher A → Fraser CM
Fowler SC → Stanford JA
Frances H → Coudereau J-P
Fraser CM, Fisher A, Cooke MJ, Thompson ID, Stone TW: Purine modulation of dizocilpine effects on spontaneous alternation 334

Gaiardi M, Bartoletti M, Bacchi A, Gubellini C, Babbini M: Motivational properties of buprenorphine as assessed by place and taste conditioning in rats 104
Gartside SE, Umbers V, Sharp T: Inhibition of 5-HT cell firing in the DRN by non-selective 5-HT reuptake inhibitors: studies on the role of $5\text{-}HT_{1A}$ autoreceptors and noradrenergic mechanisms 261
Gauthier P, Arnaud C, Stutzmann JM, Gottesmann C: Influence of zopiclone, a new generation hypnotic, on the intermediate stage and paradoxical sleep in the rat 139
Gilbert DG, Meliska CJ, Plath LC: Noise stress does not modulate effects of smoking/nicotine on β-endorphin, cortisol, ACTH, glucose, and mood 197
Gonzalez LE → Andrews N
Gotsick JE → Mattingly BA
Gottesmann C → Gauthier P
Goudie AJ → Brauer LH
Grant KA, Azarov A, Shively CA, Purdy RH: Discriminative stimulus effects of ethanol and 3α-hydroxy-5α-pregnan-20-one in relation to menstrual cycle phase in cynomolgus monkeys (*Macaca fascicularis*) 59
Griffiths RR → Schuh KJ
Grill HJ, Donahey JCK, King L, Kaplan JM: Contribution of caudal brainstem to *d*-fenfluramine anorexia 375
Grocki S → Shaham Y
Gubellini C → Gaiardi M

Hamon M → Maudhuit C
Harrison PJ → Le Corre S
Hayashi T, Nishikawa T, Koga I, Uchida Y, Horiguchi J, Yamawaki S: Involvement of the α_2-adrenergic system in polydipsia in schizophrenic patients: a pilot study 382
Henningfield JE → Schuh KJ
Hill JL → Broocks A
Ho M-Y → Al-Zahrani SSA
Holahan MR, Kalin NH, Kelley AE: Microinfusion of corticotropin-releasing factor into the nucleus accumbens shell results in increased behavioral arousal and oral motor activity 189
Hölscher C, McGlinchey L, Anwyl R, Rowan MJ: HFS-induced long-term potentiation and LFS-induced depotentiation in area CA1 of the hippocampus are not good models for learning 174
Holtzman SG: Discriminative stimulus effects of buprenorphine in the rat 292
Horiguchi J → Hayashi T

Ito C, Onodera K, Watanabe T, Sato M: Effects of histamine agents on methamphetamine-induced stereotyped behavior and behavioral sensitization in rats 362

Jackson WJ → Prendergast MA
Janak PH, Rodriguez WA, Martinez JLJr: Cocaine impairs acquisition of an autoshaped lever-touch response 213

Kalin NH → Holahan MR
Kamijima K → Tadokoro C
Kaplan JM → Grill HJ
Kelley AE → Holahan MR
Kerwin RW → Pilowsky LS
King GR, Xiong Z, Ellinwood EHJr: Blockade of cocaine sensitization and tolerance by the co-administration of odansetron, a $5\text{-}HT_3$ receptor antagonist, and cocaine 159
King GR → Matell MS
King L → Grill HJ
Kiuchi Y → Tadokoro C
Koch C → Mattingly BA
Koch M → Kretschmer BD
Koga I → Hayashi T
Kretschmer BD, Koch M: Role of the strychnine-insensitive glycine binding site in the nucleus accumbens and anterodorsal striatum in sensorimotor gating: a behavioral and microdialysis study 131
Kuczenski R → Conti LH
Kulaga H → Natsuakari N

Lancel M → Faulhaber J
Le Corre S, Sharp T, Young AH, Harrison PJ: Increase of $5\text{-}HT_7$ (serotonin-7) and $5\text{-}HT_{1A}$ (serotonin-1A) receptor mRNA expression in rat hippocampus after adrenalectomy 368

MacDonald E → Ruotsalainen S
Marsh KC → Prendergast MA
Martin P → Maudhuit C
Martinez JLJr → Janak PH
Martin-Iverson MT, Reimer AR, Sharma S: Unbiased cocaine conditioned place preferences (CPP) obscures conditioned locomotion, and nimodipine blockade of cocaine CPP is due to conditioned place aversions 327
Masserano JM → Natsuakari N
Matell MS, King GR: 5-HT_3 receptor mediated dopamine release in the nucleus accumbens during withdrawal from continuous cocaine 242
Mattingly BA, Koch C, Osborne FH, Gotsick JE: Stimulus and response factors affecting the development of behavioral sensitization to apomorphine 109
Maudhuit C, Prévot E, Dangoumau L, Martin P, Hamon M, Adrien J: Antidepressant treatment in helpless rats: effect on the electrophysiological activity of raphe dorsalis serotonergic neurons 269
Maurel S, Schreiber R, De Vry J: Substitution of the selective serotonin reuptake inhibitors fluoxetine and paroxetine for the discriminative stimulus effects of ethanol in rats 404
Mazzola-Pomietto P, Aulakh CS, Tolliver T, Murphy DL: Functional subsensitivity of 5-HT_{2A} and 5- HT_{2C} receptors mediating hyperthermia following acute and chronic treatment with 5-$HT_{2A/2C}$ receptor antagonists 144
McAllister KH: A single administration of *d*-amphetamine prior to stimulus pre-exposure and conditioning attenuates latent inhibition 79
McGlinchey L → Hölscher C
Meliska CJ → Gilbert DG
Miczek KA → Tidey JW
Miettinen R → Ruotsalainen S
Monier C → Coudereau J-P
Murphy DL → Broocks A
Murphy DL → Mazzola-Pomietto P
Murray RM → Pilowsky LS

Nara K → Tadokoro C
Natsuakari N, Kulaga H, Baker I, Wyatt RJ, Masserano JM: Increased cyclic AMP response to forskolin in Epstein-Barr virus-transformed human B-lymphocytes derived from schizophrenics 235
Nishikawa T → Hayashi T

Oguchi K → Tadokoro C
Onodera K → Ito C
O'Connell P → Pilowsky LS
Osborne FH → Mattingly BA

Perrault G → Sanger DJ
Pigott TA → Broocks A
Pilowsky LS, O'Connell P, Davies N, Busatto GF, Costa DC, Murray RM, Ell PJ, Kerwin RW: In vivo effects on striatal dopamine D_2 receptor binding by the novel atypical antipsychotic drug sertindole – a ^{123}I IBZM single photon emission tomography (SPET) study 152
Plath LC → Gilbert DG
Prendergast MA, Terry AVJr, Jackson WJ, Marsh KC, Decker MW, Arneric SP, Buccafusco JJ: Improvement in accuracy of delayed recall in aged and non-aged, mature monkeys after intramuscular or transdermal administration of the CNS nicotinic receptor agonist ABT-418 276
Preston K, Wit H de: Bridging the information gap: assimilating preclinical and clinical findings 1
Preston KL → Dykstra LA
Prévot E → Maudhuit C
Puotz JK → Rebec GV
Purdy RH → Grant KA
Puumala T → Ruotsalainen S

Rebec GV, White IM, Puotz JK: Responses of neurons in dorsal striatum during amphetamine-induced focused stereotypy 343
Reimer AR → Martin-Iverson MT
Riekkinen PSr → Ruotsalainen S
Rodriguez WA → Janak PH
Rose JE, Corrigall WA: Nicotine self-administration in animals and humans: similarities and differences 28
Rowan MJ → Hölscher C
Rukstalis M → Wit H de
Ruotsalainen S, MacDonald E, Miettinen R, Puumala T, Riekkinen PSr, Sirviö J: Additive deficits in the choice accuracy of rats in the delayed non-matching to position task after cholinolytics and serotonergic lesions are non-mnemonic in nature 303

Sanger DJ, Depoortere R, Perrault G: Discriminative stimulus effects of apomorphine and 7-OH-DPAT: a potential role for dopamine D_3 receptors 387
Sato M → Ito C
Schreiber R → Maurel S
Schreiber S, Segman RH: Risperidone-induced galactorrhea 300
Schuh KJ, Griffiths RR: Caffeine reinforcement: the role of withdrawal 320
Schuh KJ, Schuh LM, Henningfield JE, Stitzer ML: Nicotine nasal spray and vapor inhaler: abuse liability assessment 352
Schuh LM → Schuh KJ
Sears LL, Steinmetz JE: Effects of haloperidol on sensory processing in the hippocampus during classical eyeblink conditioning 254
Segal DS → Conti LH
Segman RH → Schreiber S
Shaham Y, Adamson LK, Grocki S, Corrigall WA: Reinstatement and spontaneous recovery of nicotine seeking in rats 396
Sharma S → Martin-Iverson MT
Sharp T → Gartside SE
Sharp T → Le Corre S
Shively CA → Grant KA
Sirviö J → Ruotsalainen S
Stanford JA, Fowler SC: Subchronic effects of clozapine and haloperidol on rats' forelimb force and duration during a press-while-licking task 249
Steiger A → Faulhaber J
Steinmetz JE → Sears LL
Stitzer ML → Schuh KJ
Stone TW → Fraser CM
Stutzmann JM → Gauthier P
Szabadi E → Al-Zahrani SSA

Tadokoro C, Kiuchi Y, Yamazaki Y, Nara K, Oguchi K, Kamijima K: Behavioral stimulation without alteration of β and 5-HT receptors and adenylate cyclase activity in rat brain after chronic sertraline administration 124
Terry AVJr → Prendergast MA
Thompson ID → Fraser CM
Tidey JW, Miczek KA: Acquisition of cocaine self-administration after social stress: role of accumbens dopamine 203
Tolliver T → Mazzola-Pomietto P
Tolliver TJ → Broocks A

Uchida Y → Hayashi T
Umbers V → Gartside SE

Walsh SL, Cunningham KA: Serotonergic mechanisms involved in the discriminative stimulus, reinforcing and subjective effects of cocaine 41
Watanabe T → Ito C
White IM → Rebec GV
Winger G → Aspen JM
Wit H de, Rukstalis M: Acute effects of triazolam in women: relationships with progesterone, estradiol and allopregnanolone 69
Wit H de → Brauer LH
Wit H de → Preston K
Wyatt RJ → Natsuakari N

Xiong Z → King GR

Yamawaki S → Hayashi T
Yamazaki Y → Tadokoro C
Young AH → Le Corre S

Indexed in *Current Contents, Psychological Abstracts, Psyc* INFO, *Index Medicus* and in *EMBASE*